

Amendments to the Claims

1. (Currently amended) An orthotic insole marketing and production system, comprising:
 - a receiver for receiving orthotic insole orders, each order comprising user information, and scanned foot images, and prescription information based on a diagnosis from a practitioner;
 - a conversion utility for converting the scanned foot images into a three dimensional orthotic insole model;
 - a modeling utility for manipulating the three dimensional orthotic insole model so as to incorporate said prescription information;
 - a postprocessing utility for generating fabrication instructions from the manipulated orthotic insole model; and
 - a fabrication device that interprets the fabrication instructions to create a physical reproduction of the manipulated orthotic insole model;
 - wherein the physical reproduction created by the fabrication device is subsequently delivered to the user for use as an orthotic insole.
2. (Original) The system of claim 1 wherein orthotic insole orders further comprise a prescription based on a diagnosis from a medical practitioner.
3. (Original) The system of claim 1 further comprising:
 - a foot scan software program executable by orthotic insole customers to collect order information and aid users in scanning foot images;
 - wherein the foot scan software program creates and transmits orthotic insole orders to the system receiver.
4. (Original) The system of claim 3 wherein the foot scan software program packs all order information and scanned images into a single file prior to transmitting the orthotic insole order.

5. (Original) The system of claim 4 further comprising:
an unpack utility for extracting order information and scanned images from
packed orthotic insole orders.
- 6-9. (Canceled).
10. (Currently amended) A method of producing custom orthotic insoles, comprising:
receiving into a computer system an order for custom orthotic insoles; each order
comprising scanned images of a patient's foot and instructions on customizing the orthotic
insole, said instructions incorporating prescription information based on a diagnosis from a
practitioner;
converting the scanned images into three dimensional orthotic insole computer models;
adding features to the orthotic insole computer model according to the instructions for
customizing the orthotic insole;
generating fabrication instructions for creating a physical replica of the orthotic insole
computer model; and
fabricating a physical replica of the orthotic insole computer model using the fabrication
instructions.
11. (Original) The method of claim 10 wherein the top surface of the orthotic insole computer
model is created from the foot computer model.
12. (Original) The method of claim 11 wherein the instructions on customizing the orthotic
insole are prescription instructions from a medical practitioner.
13. (Original) The method of claim 12 further comprising:
creating a patient record in a production database for each customer that has placed an
order for custom orthotic insoles; and
storing all order information with the corresponding patient record;

wherein all order information is retrievable from the production database.

14. (Original) The method of claim 13 wherein patient record information within the production database is viewable using a production database explorer software program.
15. (Original) The method of claim 14 further comprising:
 - receiving data from a foot pressure measuring device reflecting pressure distributions on the foot of a customer ordering orthotic insoles;
 - overlaying pressure data onto the orthotic insole computer model;
 - adding features to the orthotic insole computer model to redistribute pressures on the customers foot.
16. (Original) The method of claim 14 further comprising:
 - receiving data from a medical imaging device reflecting the internal structure of the foot of a customer ordering orthotic insoles;
 - adding features to the orthotic insole computer model based on the data from the medical imaging device.
17. (Original) The method of claim 14 further comprising:
 - receiving data from a laser scanning device reflecting a 3D model of the foot of a customer ordering orthotic insoles;
 - adding features to the orthotic insole computer model based on the data from the laser scanning device.
18. (Currently amended) A method of ordering custom orthotic insoles, comprising:
 - acquiring a computer image of a foot using an electro-optic scanner;
 - transmitting the image and custom fabrication instructions to an orthotic insole manufacturer, said custom fabrication instructions incorporating prescription information based on a diagnosis from a practitioner;
 - wherein the image and custom fabrication instructions are used by the orthotic insole

manufacturer to create a computer model of an orthotic insole from which custom orthotic insoles are manufactured.

19. (Original) The method of claim 18 further comprising:
downloading and executing a foot scan software program from the orthotic insole manufacturer;
inputting user information in response to queries from the foot scan software; and
acquiring computer foot images by following instructions from the foot scan software.
20. (Original) The method of claim 19 further comprising:
submitting the order for custom orthotic insoles from the foot scan software.
21. (Original) The method of claim 19 further comprising:
submitting the order for custom orthotic insoles by emailing an order file generated by the foot scan software to the orthotic insole manufacturer.
22. (Original) The method of claim 18 wherein the order is placed by the end user.
23. (Original) The method of claim 18 wherein the order is placed for the end user by an authorized practitioner.
24. (Original) The method of claim 23 wherein the authorized practitioner is a medical doctor and the custom fabrication instructions are in the form of a prescription generated in response to a medical diagnosis.
- 25-27. (Canceled).
28. (Currently amended) A method of producing a custom orthotic insole, comprising:
receiving into a computer system an order for a custom orthotic insole; each order
comprising a scanned image of a customer's foot;

receiving modification instructions with the order for a custom orthotic insole, said modification instructions incorporating prescription information based on a diagnosis from a practitioner;

converting the scanned image into a three dimensional orthotic insole computer model;

adding features to the orthotic insole computer model according to the modification instructions;

generating fabrication instructions for creating a physical replica of the orthotic insole computer model; and

fabricating a physical replica of the orthotic insole computer model using the fabrication instructions.

29. (Canceled.)

30. (Currently amended) The method of claim 28 ~~29~~ wherein the instructions on fabricating the orthotic insole are prescription instructions from a medical practitioner.

31. (Currently amended) An orthotic insole marketing and production system, comprising:
a receiver for receiving orthotic insole orders, each order comprising user information and scanned foot images and customization instructions incorporating prescription information based on a diagnosis from a practitioner;

a conversion utility for converting the scanned foot images into a three dimensional orthotic insole model;

a postprocessing utility for generating fabrication instructions from the manipulated orthotic insole model; and

a fabrication device that interprets the fabrication instructions to create a physical reproduction of the orthotic insole model.

32. (Original) The system of claim 31 wherein the physical reproduction created by the fabrication device is subsequently delivered to the user for use as an orthotic insole.

33. (Original) The system of claim 32 further comprising a modeling utility for altering the three dimensional orthotic insole model.

34-35. (Canceled).

36. (Currently amended) The system of claim 31 ~~35~~ further comprising:
a foot scan software program executable by orthotic insole customers to collect order information and aid users in scanning foot images.

37. (Original) The system of claim 36 wherein the foot scan software program creates and transmits orthotic insole orders to the system receiver.

38. (Original) The system of claim 36 wherein the foot scan software creates and saves orthotic insole orders to a local memory device, and wherein said orders are subsequently submitted to the system receiver.

39. (New) The system of claim 1 wherein the modeling utility includes at least one function for modifying the three dimensional orthotic insole model, said function being selected from the group consisting of functions for creating pads on the surface of the insole, functions for creating recesses to alleviate pressure on injured or irregular surfaces of the foot, functions for elevating parts of the insole, functions for generating new surfaces defined by multiple points interconnected by lines, functions for raising or depressing an area defined polygonally by setting points on the surface of the insole, functions for adding outer support to the longitudinal arch area, functions for modifying the thickness of the insole, functions for altering the lateral tilt, functions for defining the heel of the insole, and functions for eliminating uneven surfaces created during the scanning procedure.

40. (New) The method of claim 10 wherein the step of adding features to the orthotic insole computer model includes executing at least one function selected from the group consisting of functions for creating pads on the surface of the insole, functions for creating recesses to alleviate pressure on injured or irregular surfaces of the foot, functions for elevating parts of the insole, functions for generating new surfaces defined by multiple points interconnected by lines,

functions for raising or depressing an area defined polygonally by setting points on the surface of the insole, functions for adding outer support to the longitudinal arch area, functions for modifying the thickness of the insole, functions for altering the lateral tilt, functions for defining the heel of the insole, and functions for eliminating uneven surfaces created during the scanning procedure.

41. (New) The method of claim 18 wherein the custom fabrication instructions include the output of at least one function selected from the group consisting of functions for creating pads on the surface of the insole, functions for creating recesses to alleviate pressure on injured or irregular surfaces of the foot, functions for elevating parts of the insole, functions for generating new surfaces defined by multiple points interconnected by lines, functions for raising or depressing an area defined polygonally by setting points on the surface of the insole, functions for adding outer support to the longitudinal arch area, functions for modifying the thickness of the insole, functions for altering the lateral tilt, functions for defining the heel of the insole, and functions for eliminating uneven surfaces created during the scanning procedure.

42. (New) The method of claim 28 wherein the modification instructions include the output of at least one function selected from the group consisting of functions for creating pads on the surface of the insole, functions for creating recesses to alleviate pressure on injured or irregular surfaces of the foot, functions for elevating parts of the insole, functions for generating new surfaces defined by multiple points interconnected by lines, functions for raising or depressing an area defined polygonally by setting points on the surface of the insole, functions for adding outer support to the longitudinal arch area, functions for modifying the thickness of the insole, functions for altering the lateral tilt, functions for defining the heel of the insole, and functions for eliminating uneven surfaces created during the scanning procedure.

43. (New) The method of claim 31 wherein the customization instructions include the output of at least one function selected from the group consisting of functions for creating pads on the surface of the insole, functions for creating recesses to alleviate pressure on injured or irregular surfaces of the foot, functions for elevating parts of the insole, functions for generating new

surfaces defined by multiple points interconnected by lines, functions for raising or depressing an area defined polygonally by setting points on the surface of the insole, functions for adding outer support to the longitudinal arch area, functions for modifying the thickness of the insole, functions for altering the lateral tilt, functions for defining the heel of the insole, and functions for eliminating uneven surfaces created during the scanning procedure.